

[FAN SHROUD WITH BUILT IN NOISE REDUCTION]

Abstract of Disclosure

The present invention is a system and method to significantly reduce noise associated with air-moving devices such as an axial flow fan using a fan shroud and barrel combination with built in silencers such as Helmholtz resonators. The invention can be applied to a variety of applications such as a thermal management system for a fuel cell powered vehicle. The resonator can be a hollow cavity in networks attached to an outer or inner barrel or shroud and tuned to reduce noise at predetermined noise frequency ranges within the airflow. The invention can also attach stator members on the inner surface of the outer barrel to further reduce noise. Additional sound absorbing material, such as steel wool, can be disposed within the resonator cavity.